

February 28, 2007

Mr. William Snell  
U.S. Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road  
Lisle, IL 60532-4351

**SUBJECT: LETTER REPORT FOR 27 WATER SAMPLES FROM THE VICINITY OF THE DRESDEN GENERATING STATION, DRESDEN, ILLINOIS [INSPECTION REPORT NO. 050-00237/2007-002] (RFTA NO. 06-001)**

Dear Mr. Snell:

The Oak Ridge Institute for Science and Education (ORISE) received 27 water samples associated with the Dresden Generating Station on February 5, 2007. The samples were analyzed for tritium to an average minimum detectable concentration of 190 pCi/L using a liquid scintillation analyzer. The chain-of-custody identified five water samples to be analyzed by gamma spectroscopy (GS). The sample identifications and collection data are presented in Table 1. The GS data are presented in Table 2. The tritium data are presented in Table 3. The pertinent procedure references are provided in the specific tables.

ORISE's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request.

My contact information is listed below. You may also contact Wade Ivey at 865.576.9184 with any questions or comments.

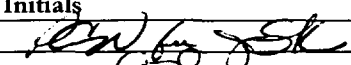

Sincerely,



Dale Condra, Manager  
Laboratory

RDC:WPE:km

c: T. Carter, NMSS/DWMEP 7J18  
E. Knox-Davin, NRC/NMSS/TWFFN 8A23  
File 1733  
E. Abelquist, ORISE  
S. Kirk, ORISE

Distribution approval and concurrence :	Initials
Technical Management Team Member	
Quality Manager	

Voice: 865.241.3242

Fax: 865.241.3248

E-mail: Dale.Condra@orau.org

**TABLE 1****SAMPLE IDENTIFICATIONS  
AND COLLECTION DATA  
DRESDEN GENERATING STATION  
DRESDEN, ILLINOIS**

<b>ORISE Sample ID</b>	<b>NRC Region III Sample ID</b>	<b>Collection Date</b>	<b>Collection Time</b>
1733W0001	D-07-1-01	1/17/2007	8:35 AM
1733W0002	D-07-1-02	1/22/2007	9:00 AM
1733W0003	D-07-1-03	1/17/2007	8:45 AM
1733W0004	D-07-1-04	1/22/2007	8:45 AM
1733W0005	D-07-1-05	1/17/2007	1:00 PM
1733W0006	D-07-1-07	1/22/2007	11:15 AM
1733W0007	D-07-1-07	1/17/2007	12:45 PM
1733W0008	D-07-1-08	1/22/2007	10:10 AM
1733W0009	D-07-1-09	1/17/2007	11:15 AM
1733W0010	D-07-1-10	1/22/2007	1:25 PM
1733W0011	D-07-1-11	1/17/2007	9:15 AM
1733W0012	D-07-1-12	1/22/2007	2:05 PM
1733W0013	D-07-1-13	1/17/2007	11:35 AM
1733W0014	D-07-1-14	1/22/2007	11:25 AM
1733W0015	D-07-1-15	1/17/2007	11:45 AM
1733W0016	D-07-1-16	1/22/2007	11:30 AM
1733W0017	D-07-1-17	1/18/2007	12:05 PM
1733W0018	D-07-1-18	1/25/2007	10:45 AM
1733W0019	D-07-1-19	1/18/2007	11:50 AM
1733W0020	D-07-1-20	1/25/2007	10:45 AM
1733W0021	D-07-1-21	1/17/2007	1:25 PM
1733W0022	D-07-1-22	1/22/2007	1:00 PM
1733W0023	D-07-1-23	1/17/2007	9:45 AM
1733W0024	D-07-1-24	1/22/2007	10:50 AM
1733W0025	D-07-1-25	1/17/2007	1:40 PM
1733W0026	D-07-1-26	1/22/2007	9:30 AM
1733W0027	D-07-1-27	1/12/2007	10:00 AM

**TABLE 2**

**CONCENTRATIONS OF SELECTED  
GAMMA EMITTING RADIONUCLIDES  
IN SELECTED WATER SAMPLES  
BY GAMMA SPECTROSCOPY CP1, REVISION 15  
DRESDEN GENERATING STATION  
DRESDEN, ILLINOIS**

ORISE Sample ID	NRC Region III Sample ID	Radionuclide Concentrations <sup>a</sup> (pCi/L)			
		Co-58	Co-60	Cs-134	Cs-137
1733W0005	D-07-1-05	0.8 ± 5.4 <sup>b</sup>	-3 ± 10	2.1 ± 6.0	-6 ± 10
1733W0010	D-07-1-10	-0.2 ± 3.0	0.2 ± 3.1	-0.7 ± 3.1	0.3 ± 2.8
1733W0015	D-07-1-15	-3.4 ± 2.4	-0.1 ± 2.2	-1.3 ± 2.3	-0.7 ± 2.0
1733W0020	D-07-1-20	0.2 ± 3.4	2.7 ± 3.2	-0.2 ± 3.4	-1.7 ± 2.9
1733W0025	D-07-1-25	-0.3 ± 3.1	-3.9 ± 5.7	1.8 ± 3.0	-2.5 ± 5.7

<sup>a</sup>The range of MDCs for the selected radionuclides is 3.5 pCi/L to 9.9 pCi/L.

<sup>b</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.

TABLE 3

CONCENTRATIONS OF TRITIUM  
 IN WATER SAMPLES  
 BY LIQUID SCINTILLATION ANALYSIS  
 AP2, REVISION 15; CP4, REVISION 3  
 DRESDEN GENERATING STATION  
 DRESDEN, ILLINOIS

ORISE Sample ID	NRC Region III Sample ID	Tritium Concentrations, TPUs, and MDCs <sup>a</sup> (pCi/L)
1733W0001	D-07-1-01	390 ± 130 <sup>b</sup> (200)
1733W0002	D-07-1-02	760 ± 140 (200)
1733W0003	D-07-1-03	260 ± 120 (200)
1733W0004	D-07-1-04	330 ± 120 (200)
1733W0005	D-07-1-05	2,770 ± 200 (200)
1733W0006	D-07-1-07	2,530 ± 190 (200)
1733W0007	D-07-1-07	4,990 ± 270 (200)
1733W0008	D-07-1-08	4,910 ± 270 (200)
1733W0009	D-07-1-09	1,880 ± 170 (200)
1733W0010	D-07-1-10	1,920 ± 170 (200)
1733W0011	D-07-1-11	21,170 ± 810 (200)
1733W0012	D-07-1-12	22,810 ± 860 (200)
1733W0013	D-07-1-13	4,440 ± 260 (200)
1733W0014	D-07-1-14	4,750 ± 270 (200)
1733W0015	D-07-1-15	32,700 ± 1,200 (180)
1733W0016	D-07-1-16	29,700 ± 1,100 (180)
1733W0017	D-07-1-17	120,200 ± 4,100 (180)
1733W0018	D-07-1-18	113,100 ± 3,800 (180)
1733W0019	D-07-1-19	100,500 ± 3,400 (180)
1733W0020	D-07-1-20	97,400 ± 3,300 (180)
1733W0021	D-07-1-21	680 ± 120 (180)
1733W0022	D-07-1-22	510 ± 120 (180)
1733W0023	D-07-1-23	40 ± 100 (180)
1733W0024	D-07-1-24	100 ± 110 (180)
1733W0025	D-07-1-25	11,410 ± 480 (180)
1733W0026	D-07-1-26	11,280 ± 470 (180)
1733W0027	D-07-1-27	660 ± 120 (180)

<sup>a</sup>MDCs are in parenthesis.

<sup>b</sup>Uncertainties represent the 95% confidence level, based on total propagated uncertainties.